

### Amendments to the Specification

*Please amend the paragraph starting on page 19, line 21, as follows:*

The phosphine groups preferably contain two identical or different, preferably identical unsubstituted or substituted hydrocarbon radicals with 1 to 20, preferably 1 to 12 carbon atoms. Of the ditertiary diphosphines the ones that are especially preferred are those in which the two phosphine groups are two identical or different radicals selected from the group comprising linear or branched C<sub>1</sub>-C<sub>12</sub> alkyl; C<sub>5</sub>-C<sub>12</sub> cycloalkyl, C<sub>5</sub>-C<sub>12</sub> cycloalkyl-CH<sub>2</sub>-, phenyl or benzyl, unsubstituted or substituted with C<sub>1</sub>-C<sub>6</sub> alkyl or C<sub>1</sub>-C<sub>6</sub> alkoxy; or contain phenyl or benzyl substituted with halogen (for example F, Cl and Br), C<sub>1</sub>-C<sub>6</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> haloalkyl (for example trifluoromethyl), C<sub>1</sub>-C<sub>6</sub> alkoxy, C<sub>1</sub>-C<sub>6</sub> haloalkoxy (for example trifluoromethoxy), (C<sub>6</sub>H<sub>5</sub>)<sub>3</sub>Si, (C<sub>1</sub>-C<sub>12</sub> alkyl)<sub>3</sub>Si, -NH<sub>2</sub>, -NH(C<sub>1</sub>-C<sub>12</sub> alkyl), -NH(phenyl), -NH(benzyl), -N(C<sub>1</sub>-C<sub>12</sub> alkyl)<sub>2</sub>, -N(phenyl)<sub>2</sub>, -N(benzyl)<sub>2</sub>, morpholinyl, piperidinyl, pyrrolidinyl, piperazinyl, -ammonium-X<sub>3</sub><sup>-</sup>, -SO<sub>3</sub>M<sub>1</sub>, -CO<sub>2</sub>M<sub>1</sub>, ~~-PO<sub>3</sub>(M<sub>1</sub>)<sub>2</sub>~~ ~~-P~~Θ<sub>3</sub>M<sub>1</sub>, or -CO<sub>2</sub>-C<sub>1</sub>-C<sub>6</sub> alkyl (for example -CO<sub>2</sub>CH<sub>3</sub>), where M<sub>1</sub> represents an alkali metal or hydrogen, and X<sub>3</sub><sup>-</sup> is the anion of a monobasic acid. M<sub>1</sub> preferably stands for H, Li, Na and K. X<sub>3</sub><sup>-</sup> represents the anion of a monobasic acid, preferably Cl<sup>-</sup>, Br<sup>-</sup>, or the anion of a monocarboxylic acid, for example formiate, acetate, trichloroacetate or trifluoroacetate.

*Please amend the paragraph starting on page 21, line 10, as follows:*

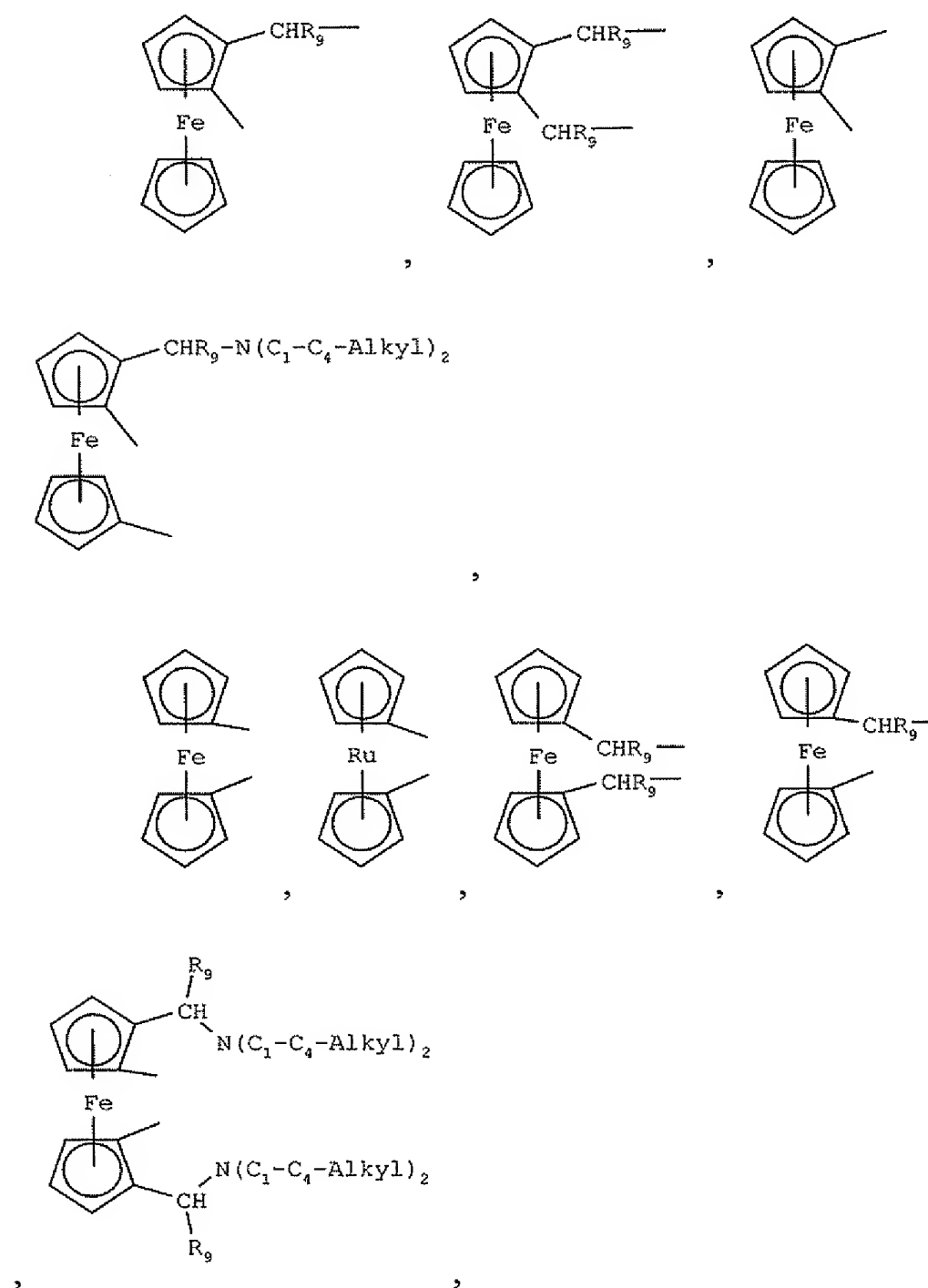
The diphosphines preferably satisfy formula IV,



in which

$R_4$ ,  $R_5$ ,  $R_7$  and  $R_8$  independently of one another represent a hydrocarbon radical with 1 to 20 carbon atoms which are unsubstituted or substituted with halogen,  $C_1$ - $C_6$ -alkyl,  $C_1$ - $C_6$ -haloalkyl,  $C_1$ - $C_6$ -alkoxy,  $C_1$ - $C_6$ -haloalkoxy,  $(C_6H_5)_3Si$ ,  $(C_1-C_{12}\text{-alkyl})_3Si$ ,  $-NH_2$ ,  $-NH(C_1-C_{12}\text{-alkyl})$ ,  $-NH(phenyl)$ ,  $-NH(benzyl)$ ,  $-N(C_1-C_{12}\text{-alkyl})_2$ ,  $-N(phenyl)_2$ ,  $-N(benzyl)_2$ , morpholinyl, piperidinyl, pyrrolidinyl, piperazinyl, -ammonium- $X_3^-$ ,  $-SO_3M_1$ ,  $-CO_2M_1$ ,  $-\underline{PO_3(M_1)_2}$   ~~$-PO_3M_1$~~ , or  $-CO_2-C_1-C_6\text{-alkyl}$ , where  $M_1$  represents an alkali metal or hydrogen, and  $X_3^-$  is the anion of a monobasic acid; or  $R_4$  and  $R_5$  and  $R_7$  and  $R_8$  respectively together denote tetramethylene, pentamethylene or 3-oxa-pentane-1,5-diyl, unsubstituted or substituted with halogen,  $C_1$ - $C_6$ -alkyl or  $C_1$ - $C_6$ -alkoxy, and  $R_6$  is  $C_2$ - $C_4$ -alkylene, unsubstituted or substituted with  $C_1$ - $C_6$ -alkyl,  $C_1$ - $C_6$ -alkoxy,  $C_5$ -cycloalkyl or  $C_6$ -cycloalkyl, phenyl, naphthyl or benzyl; 1,2- or 1,3-cycloalkylene, 1,2- or 1,3-cycloalkenylene, 1,2- or 1,3-bicycloalkylene or 1,2- or 1,3-bicycloalkenylene with 4 to 10 carbon atoms, unsubstituted or substituted with  $C_1$ - $C_6$ -alkyl, phenyl or benzyl; 1,2- or 1,3-cycloalkylene, 1,2- or 1,3-cycloalkenylene, 1,2- or 1,3-bicycloalkylene or 1,2- or 1,3-bicycloalkenylene with 4 to 10 carbon atoms, unsubstituted or substituted with  $C_1$ - $C_6$ -alkyl, phenyl or benzyl, and attached at whose 1- and/or 2-position(s) or at whose 3-position is methylene or  $C_2$ - $C_4$ -alkylidene; 1,4-butylene, substituted in the 2,3-positions with  $R_9R_{10}C(O-)_2$ , and in the 1- and/or 4-positions unsubstituted or substituted with  $C_1$ - $C_6$ -alkyl, phenyl or benzyl, and where  $R_9$  and  $R_{10}$  independently of one another represent hydrogen,  $C_1$ - $C_6$ -alkyl, phenyl or benzyl; 3,4- or 2,4-pyrrolidinylene or methylene-4-pyrrolidine-4-yl, the N-Atom of which is substituted with hydrogen,  $C_1$ - $C_{12}$ -alkyl, phenyl, benzyl,  $C_1$ - $C_{12}$ -alkoxycarbonyl,  $C_1$ - $C_8$ -acyl,  $C_1$ - $C_{12}$ -alkylamino

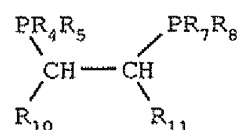
carbonyl; or 1,2-phenylene, 2-benzylene, 1,2-xylylene, 1,8-naphthylene, 2,2'-dinaphthylene or 2,2'-diphenylene, unsubstituted or substituted with halogen, -OH, C<sub>1</sub>-C<sub>6</sub>-alkyl, C<sub>1</sub>-C<sub>6</sub>-alkoxy, phenyl, benzyl, phenoxy or benzyloxy; or R<sub>6</sub> stands for a radical of the formulas



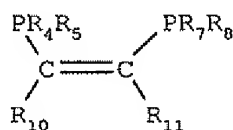
in which R<sub>9</sub> denotes hydrogen, C<sub>1</sub>-C<sub>8</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-fluoroalkyl, unsubstituted phenyl or phenyl substituted with 1 to 3 F, Cl, Br, C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-alkoxy or fluoromethyl.

*Please amend the paragraph starting on page 23, line 25, as follows:*

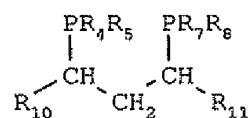
A preferred group of achiral and chiral diphosphines are those of formulas V to (XVII) and (XIX) to XXIII,



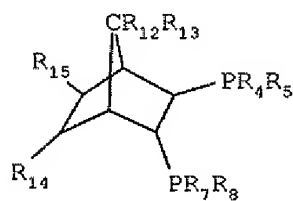
(V),



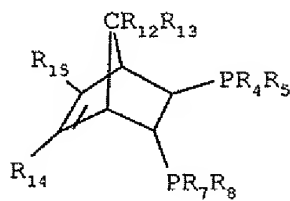
(VI),



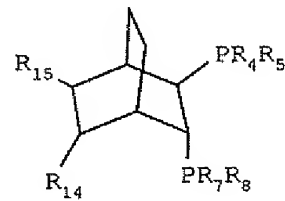
(VII),



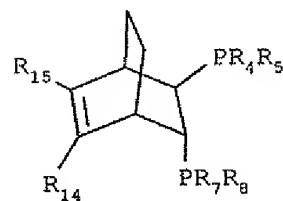
(VIII),



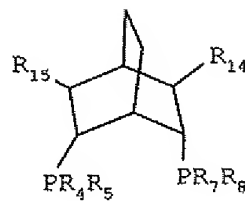
(IX)



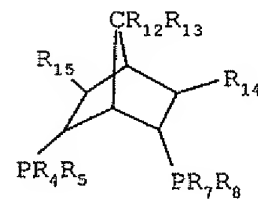
(X),



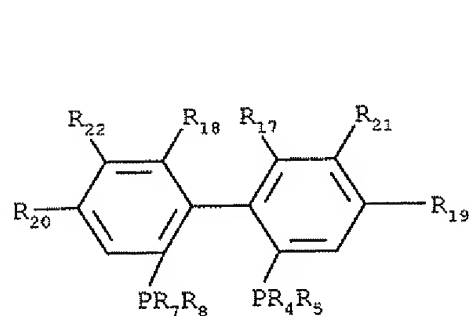
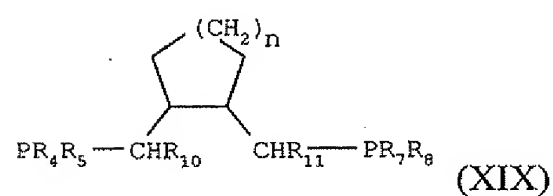
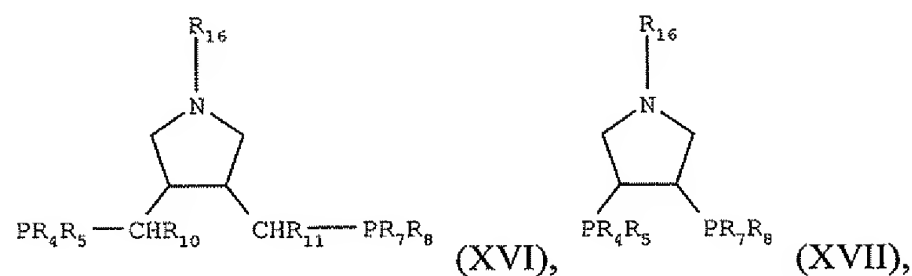
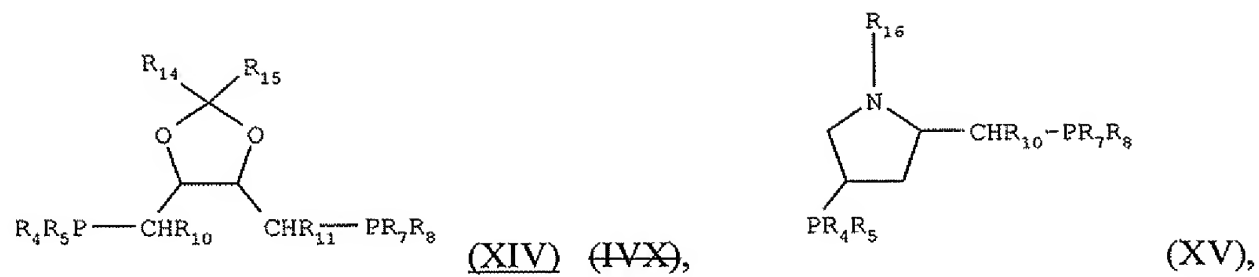
, (XI)



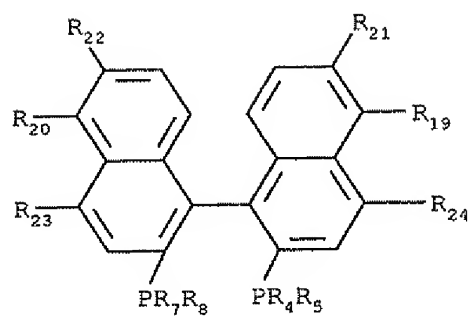
(XII),



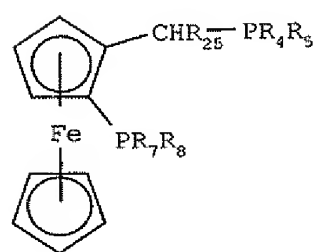
(XIII),



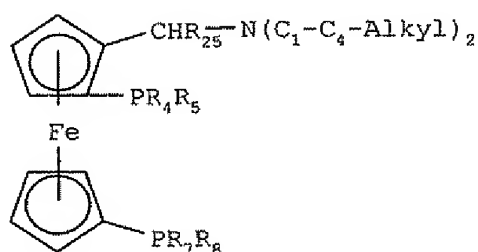
(XX),



(XXI),



(XXII),

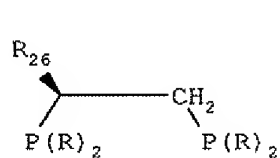


(XXIII),

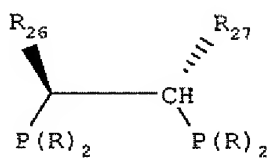
in which R<sub>4</sub>, R<sub>5</sub>, R<sub>7</sub> and R<sub>8</sub> have the meanings stated earlier, including the preferences, R<sub>10</sub> and R<sub>11</sub> independently of one another denote hydrogen, C<sub>1</sub>-C<sub>4</sub> alkyl or benzyl or phenyl, unsubstituted or substituted with one to three C<sub>1</sub>-C<sub>4</sub> alkyl or C<sub>1</sub>-C<sub>4</sub> alkoxy, R<sub>12</sub> and R<sub>13</sub> independently of one another represent hydrogen, C<sub>1</sub>-C<sub>4</sub> alkyl, phenyl or benzyl, R<sub>14</sub> and R<sub>15</sub> independently of one another denote hydrogen, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, or benzyl or phenyl, unsubstituted or substituted with one to three C<sub>1</sub>-C<sub>4</sub> alkyl or C<sub>1</sub>-C<sub>4</sub> alkoxy, R<sub>16</sub> represents hydrogen, C<sub>1</sub>-C<sub>12</sub> alkyl, unsubstituted benzyl or phenyl, or benzyl or phenyl substituted with one to three C<sub>1</sub>-C<sub>4</sub> alkyl or C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>12</sub> alkoxy-C(O)-, unsubstituted phenyl-C(O)- or benzyl-C(O)-, or phenyl-C(O)- or benzyl-C(O)- substituted with one to three C<sub>1</sub>-C<sub>4</sub> alkyl or C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>1</sub>-C<sub>12</sub> alkyl-NH-CO-, or phenyl-NH-C(O)- or benzyl-NH-C(O)-, unsubstituted or substituted with one to three C<sub>1</sub>-C<sub>4</sub> alkyl or C<sub>1</sub>-C<sub>4</sub> alkoxy, n stands for 0, 1 or 2, R<sub>17</sub> and R<sub>18</sub> are C<sub>1</sub>-C<sub>4</sub> alkyl or C<sub>1</sub>-C<sub>4</sub> alkoxy, or R<sub>17</sub> and R<sub>18</sub> together denote oxadimethylene, R<sub>19</sub>, R<sub>20</sub>, ~~R<sub>21</sub>~~ ~~R<sub>21</sub>~~, R<sub>22</sub>, R<sub>23</sub> and R<sub>24</sub> are independently of one another H, C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>4</sub> alkoxy, C<sub>5</sub>- or C<sub>6</sub> cycloalkyl or C<sub>5</sub>- or C<sub>6</sub> cycloalkoxy, phenyl, benzyl, phenoxy, benzyloxy, halogen, OH, -(CH<sub>2</sub>)<sub>3</sub>-C(O)-O-C<sub>1</sub>-C<sub>4</sub>-alkyl, -(CH<sub>2</sub>)<sub>3</sub>-C(O)-N(C<sub>1</sub>-C<sub>4</sub>-alkyl)<sub>2</sub> or -N(C<sub>1</sub>-C<sub>4</sub>-alkyl)<sub>2</sub>, or R<sub>19</sub> and R<sub>21</sub>, and/or R<sub>17</sub> and R<sub>21</sub>, and/or R<sub>20</sub> and R<sub>22</sub>, and/or R<sub>18</sub> and R<sub>22</sub>, or R<sub>21</sub> and R<sub>23</sub> and/or R<sub>22</sub> and R<sub>24</sub> respectively together represent a fused-on 5 or 6-membered, monocyclic or bicyclic hydrocarbon ring, and R<sub>25</sub> is C<sub>1</sub>-C<sub>4</sub> alkyl.

***Please amend the paragraph starting on page 26, line 9, as follows:***

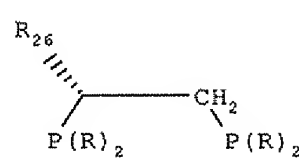
Some preferred examples of chiral ditertiary diphosphines are those of the following formulas V to XL:



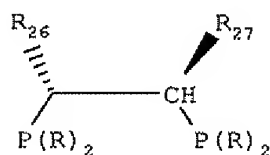
(XXIV),



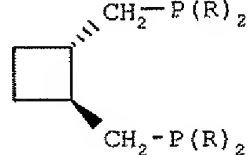
(XXV),



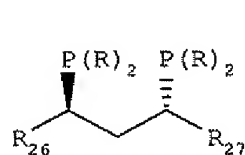
(XXVI),



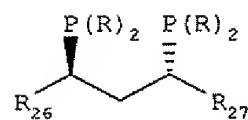
(XXVII),



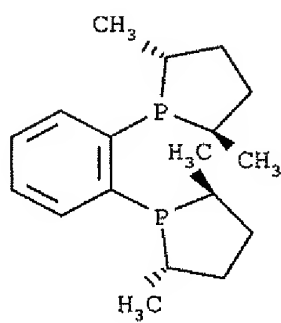
(XXVIII),



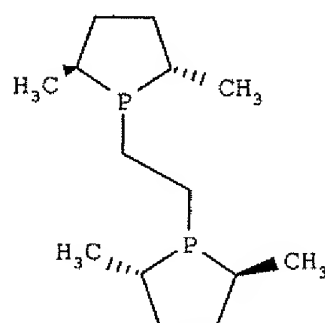
(XXIX) (XIX),



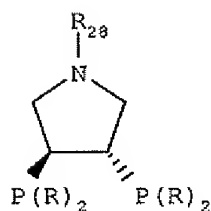
(XXX),



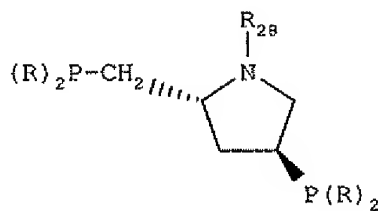
(XXXI),



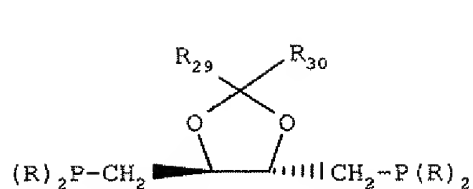
(XXXII),



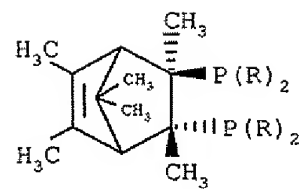
(XXXIII),



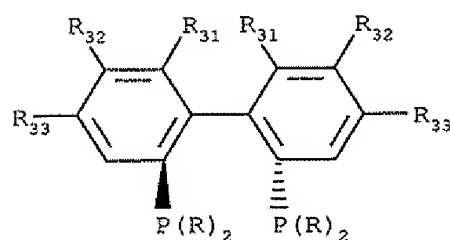
(XXXIV),



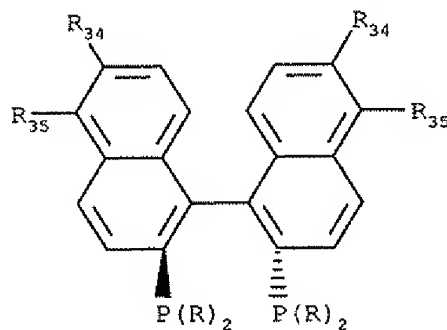
(XXXV),



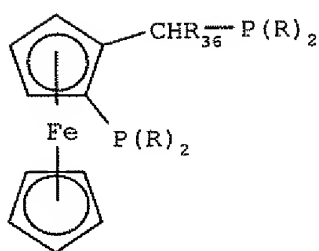
(XXXVI),



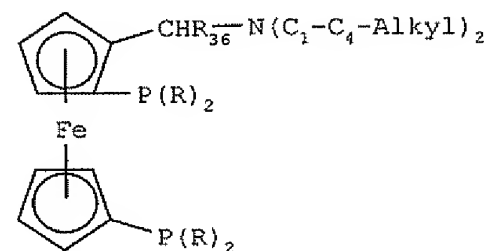
(XXXVII),



(XXXVIII),



(XXXIX)



(XL),

in which

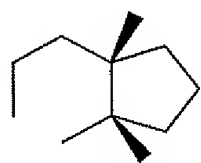
R stands for cyclohexyl or unsubstituted phenyl or phenyl substituted with one to three C<sub>1</sub>-C<sub>4</sub>-alkyl, C<sub>1</sub>-C<sub>4</sub>-alkoxy, trifluoromethyl, or an -NH<sub>2</sub> (C<sub>1</sub>-C<sub>4</sub>-alkyl)NH-, (C<sub>1</sub>-C<sub>4</sub>-alkyl)<sub>2</sub>N-,

R<sub>26</sub> and R<sub>27</sub> independently of one another denote C<sub>1</sub>-C<sub>4</sub>-alkyl, phenyl or benzyl and most preferably methyl,

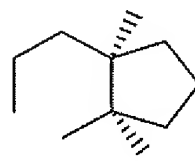
R<sub>28</sub> represents C<sub>1</sub>-C<sub>8</sub>-alkyl, C<sub>1</sub>-C<sub>8</sub>-acyl or C<sub>1</sub>-C<sub>8</sub>-alkoxycarbonyl,



$R_{29}$  stands for hydrogen or independently has the meaning of  $R_{30}$ , and  $R_{30}$  represents  $C_1$ - $C_4$ -alkyl, phenyl or benzyl,  
 $R_{31}$  denotes methyl, methoxy, or both  $R_{31}$  together denote oxadimethylene,  
 $R_{32}$  and  $R_{33}$  independently of one another represent H,  $C_1$ - $C_4$ -alkyl,  $C_1$ - $C_4$ -alkoxy or  $(C_1$ - $C_4$ -alkyl) $_2$ N-,  
 $R_{34}$  and  $R_{35}$  independently of one another represent H,  $C_1$ - $C_4$ -alkyl,  $C_1$ - $C_4$ -alkoxy,  
 $-(CH_2)_3-C(O)-O-C_1-C_4$ -alkyl,  $-(CH_2)_3-C(O)-N(C_1-C_4$ -alkyl) $_2$  or one pair  $R_{34}$  and  $R_{35}$   
 together represents a radical of formula XLI and the other pair  $R_{34}$  and  $R_{35}$  together represents a  
 radical of formula XLII



(XLI),



(XLII),

and

$R_{36}$  stands for  $C_1$ - $C_4$ -alkyl and most preferably methyl.